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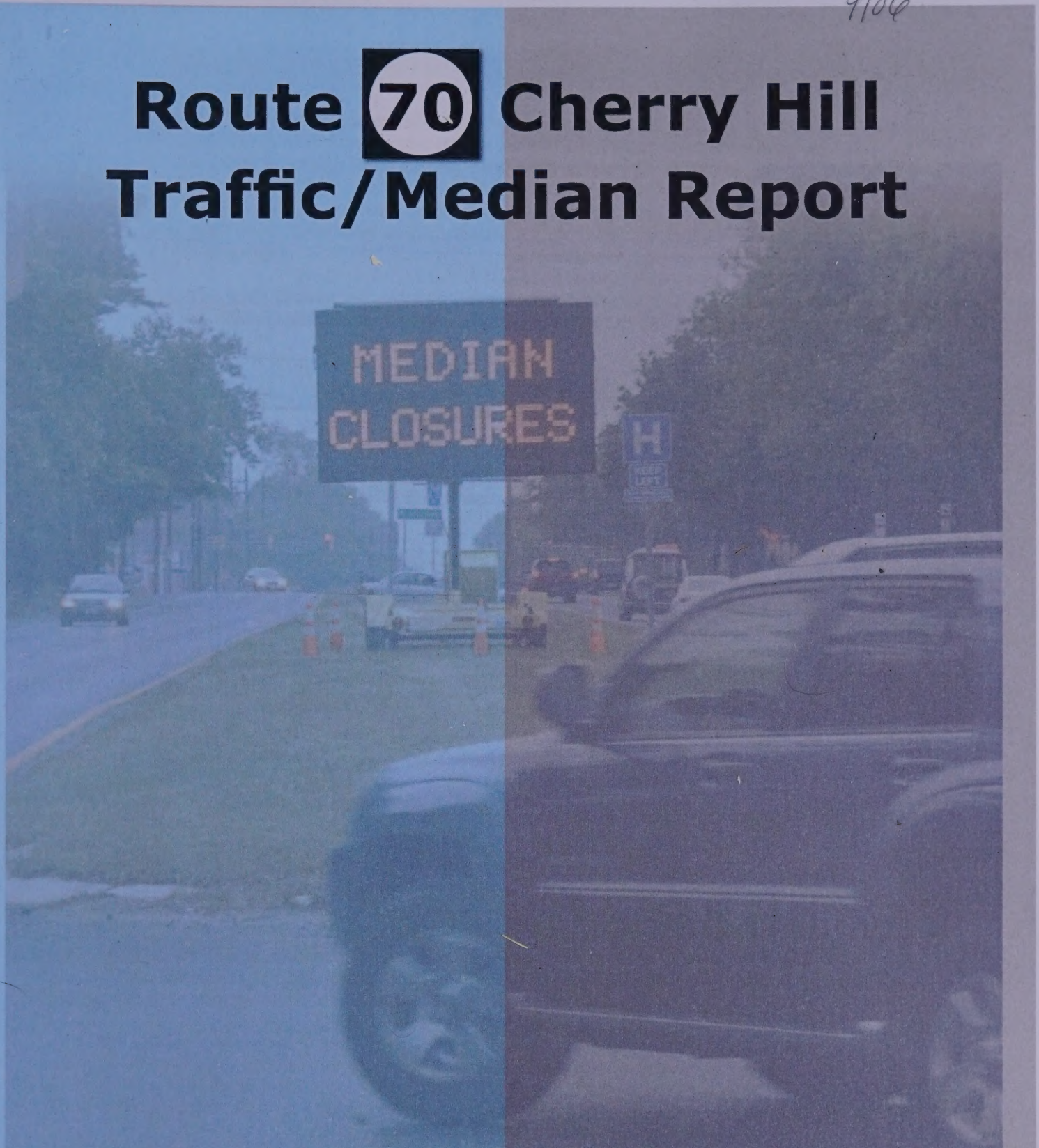
Route 70 Cherry Hill Traffic/Median Report



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New Jersey Department of Transportation
Governor Jon Corzine
Commissioner Kris Kolluri, Esq.

Courier Post photo

Route 70 Cherry Hill Traffic/Median Study

The New Jersey Department of Transportation (NJDOT) at the request of Cherry Hill officials conducted a review and analysis of the traffic flow on the Route 70 corridor between Haddonfield Road/Grove Street and Covered Bridge Road/Frontage Road during June and July 2006.

The purpose was to find ways to improve safety along this portion of Route 70 by reducing the number of potential accident sites while providing sufficient turning movements to safely serve adjacent residential and commercial development.

NJDOT in coordination with Cherry Hill officials have proposed modifications to the turning movements on Route 70 in this area. This report includes background, findings, evaluations and recommendations.

Background

The Route 70 corridor is a major artery connecting Philadelphia, Pennsylvania to southern New Jersey destinations including Camden and Cherry Hill. Over the last several years, traffic volumes have swelled to 50,000 to 60,000 vehicles daily along this portion of Route 70.

Commercial establishments and residential developments connect directly to Route 70 via the local and county roadway network. Commuters and residents face numerous points of conflict that have resulted in a crash rate that is 2.25 times greater than the statewide average for similar roadways.

In 2004, NJDOT proposed to Cherry Hill measures that would improve traffic flow and reduce accident frequency on Route 70. After significant public coordination, NJDOT and Cherry Hill developed a plan to eliminate median openings and provide left-/U-turn lanes at specific locations. While this coordination focused on a specific segment of Route 70, a larger corridor study was under way by NJDOT to determine deficiencies along a larger portion of this corridor.

The study, completed in 2004, concluded that the intersection of Covered Bridge Road/Frontage Road and the intersection of Kingston Road/West Gate Road required geometrical and operational revisions. NJDOT is pursuing funding for these projects as part of its Capital Program.

At a May 2, 2006 public meeting, NJDOT and Cherry Hill agreed to conduct a two-month review and analysis to determine whether the Route 70 traffic flow, volume and safety would be improved by eliminating nine of the ten median openings within this segment that do not contain left-/U-turn lanes. The only exception was the opening for the firehouse, which was left open.

Although NJDOT carefully considered the study's impacts upon motorists, residents and businesses, improving safety took precedence in this matter. The data from this study would help to verify which locations to treat by permanently eliminating openings, maintaining openings or providing left-/U-turn lanes.

On June 1, 2006, NJDOT temporarily closed the nine median openings in order to conduct the two-month review. The observations of NJDOT and the Cherry Hill Police Department demonstrated that the median closures improved traffic flow and that median-related accidents declined by more than 10 percent.

On July 31, 2006, representatives from NJDOT and Cherry Hill performed a cooperative field investigation and developed the recommendations presented below.

On August 1, 2006, three median openings that are proposed to be modified were reopened to provide improved traffic flow without sacrificing safety.

NJDOT has committed to funding these improvements and seeks public input to ensure that the recommendations are implemented in a manner that improves safety while addressing the concerns of the community and local businesses.

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Evaluation Zones

NJDOT divided the Route 70 corridor into four zones and quantitatively evaluated each zone based upon left-and U-turn capability. The objective of these evaluations was to reduce the number of median openings while maintaining reasonable traffic flow through each zone.

The four zones are:

- Haddonfield Road/Grove Street to Georgia Avenue/Edison Avenue
- Georgia Avenue/Edison Avenue to Kings Highway/Brace Road
- Kings Highway/Brace Road to Kingston Road/West Gate Road
- Kingston Road/West Gate Road to Covered Bridge Road/Frontage Road

All of these intersections are signalized.

Findings

Accident data, traffic volume and traffic management analyses were used to evaluate and justify recommendations.

Accident Data

The accident data provides the most critical justification for eliminating and/or modifying the median openings within this corridor. The following data demonstrated that the closure of several of the median openings would improve safety and traffic flow.

Crash Summary Prior to Median Closings
Route 70 Milepost 2.5 to 5.0
2003 to 2005

Total Crashes along this Area	571
Potential Median Related Crashes	
Same Direction: Rear End	379
Same Direction: Sideswipe	91
Total	470

These crashes, which may be attributed to median openings, represent 82 percent of all crashes occurring in this area.

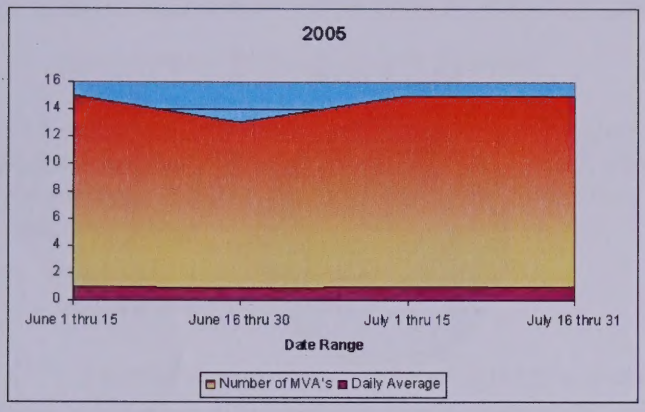
Statewide Crash Rate	1.77
Crash Rate along this Area	4.01

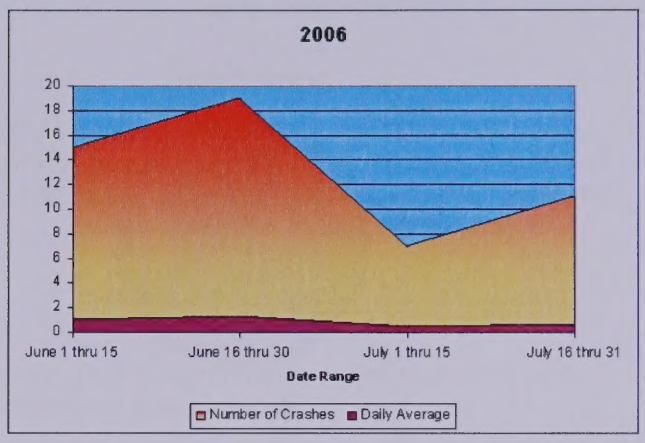
The rate at which crashes occur in this area is 2.25 times higher than that of similar roadways throughout the state.

Route 70 Crash Comparison
June 1, 2006 through July 31, 2006

Time Frame	Total	Days	Daily Average
June 1 through June 15*	44	15	2.93
June 15 through June 30	33	15	2.20
July 1 through July 15	15	15	1.00
July 16 through July 31	21	15	1.31

Average Daily MVAs Since Median Closure

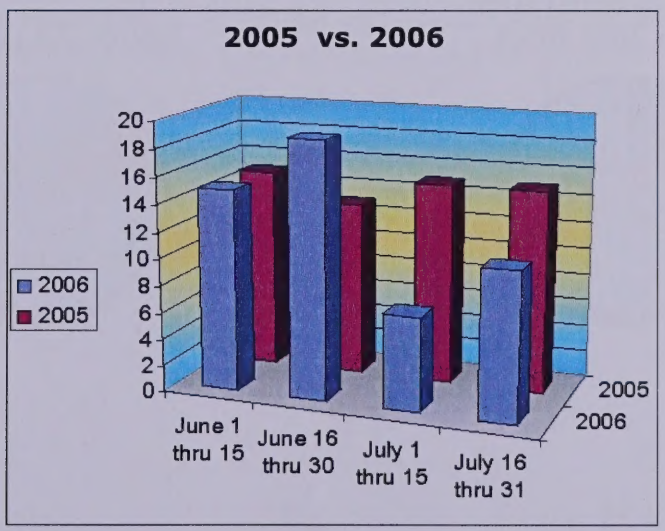




Route 70 Crash Comparison
2005 vs. 2006

	2005 Number	2005 Daily Aver.	2005 Total	2006 Number	2006 Daily Aver.	2006 Total
June 1 through June 15*	15	1.0	**28**	15	1.0	**34**
June 16 through June 30	13	0.9		19	1.3	
July 1 through July 15	15	1.0	**30**	7	0.5	**18**
July 16 through July 31	15	0.9		11	0.7	

Median Related Crashes



*Median barriers installed by NJDOT on June 5, 2006

DATA PROVIDED BY THE CHERRY HILL POLICE DEPARTMENT

Motor Vehicle Crash Types

	June 2005		July 2005		June 2006		July 2006		Total		SH70 Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Same Direction, Rear End	22	78.6%	23	76.7%	28	82.4%	13	72.2%	86	78.2%	142	76.3%
Same Direction, Sideswipe	4	14.3%	4	13.3%	4	11.8%	4	22.2%	16	14.5%	25	13.4%
Other (Left Turns, etc)	2	7.1%	3	10.0%	2	5.9%	1	5.6%	8	7.3%	19	10.2%
Totals	28		30		34		18		110		186	

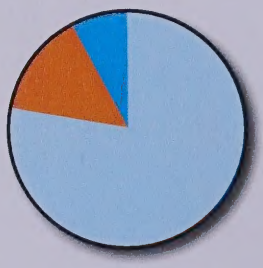
June 2005

July 2005

June 2006

July 2006

Overall Crash Types Within Test Area



Route 70 Overall

Same Direction, Rear End
Same Direction, Sideswipe
Other (Left turns, etc.)

Traffic Volume

NJDOT conducted traffic counts to provide a current perspective on the amount of vehicles utilizing the corridor. As expected, traffic volume in the corridor steadily increases each year and is projected to continue to increase. Additionally, NJDOT collected left turn traffic counts in an effort to understand where existing left-/U-turn lanes were over capacity and where extensions to those slots are necessary.

Management Systems

The Route 70 corridor was analyzed using congestion and safety management systems.

- **Congestion Management System**

NJDOT provided a Congestion Management Systems Priority Ranking of Route 70 for Milepost 2.34 to 5.08. One section, Milepost 3.66 to 4.35, received a "High" congestion rating and is ranked 371 out of approximately 5,250 highway segments. The other areas within the project limits received a "Medium" congestion rating.

- **Safety Management System**

NJDOT's Safety Management System analysis shows that the area's high frequency of rear-end and sideswipe crashes and above-average crash rate warrant safety improvements.

Safety Evaluation Summary

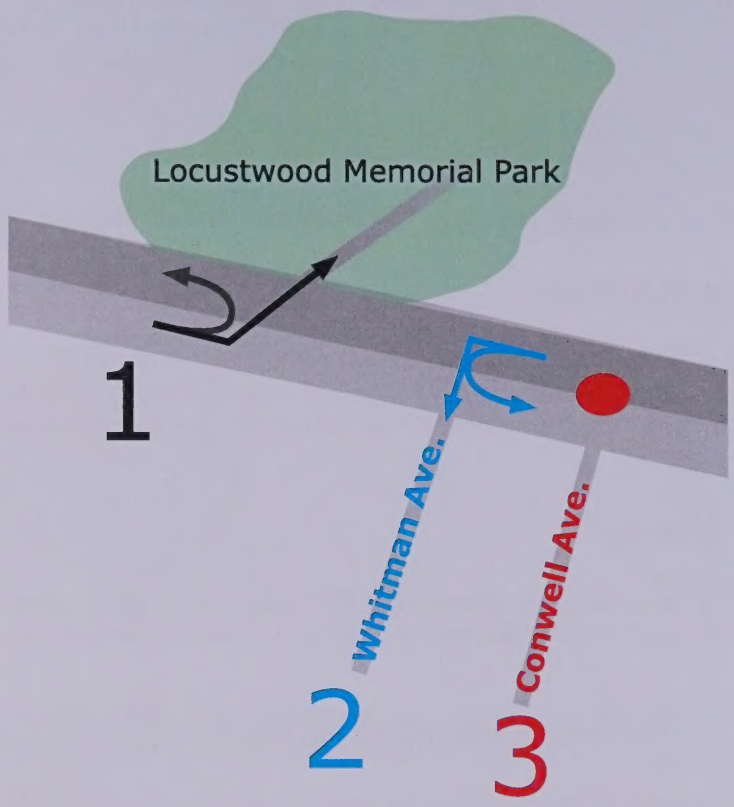
The three-year crash data provided prior to the median closings demonstrates that Route 70 is in need of safety improvements. It shows that 82 percent of the crashes were either rear-end or sideswipe impacts, consistent with the presence of median openings.

While median openings do provide access, as volume increases to capacity of the roadway, left-/U-turning vehicles increasingly hinder traffic flow and increase safety concerns. Removing left-/U-turning vehicles from the through movements by means of left-/U-turn lanes would greatly increase safety.

The data collected from the Cherry Hill Police Department for the two-month study period show a significant reduction in crashes along the corridor. While the study period is short, the results are extremely encouraging. The first few days of implementation of the closings saw a small increase in crashes, presumably because drivers were unfamiliar with the closings and were expecting to be able to make their usual turns. After the first week, crashes started to decline as drivers found alternative means of making left and U turns.

The crash reduction contributed to NJDOT's decision to permanently close, open or modify individual median barriers. Constructing left-/U-turn lanes at the opened medians and extending the length of some existing slots will enhance the safety along the entire corridor. Additionally, the modifications will improve traffic flow and capacity along the corridor.

Recommendations



1. Locustwood Memorial Park and Mausoleum

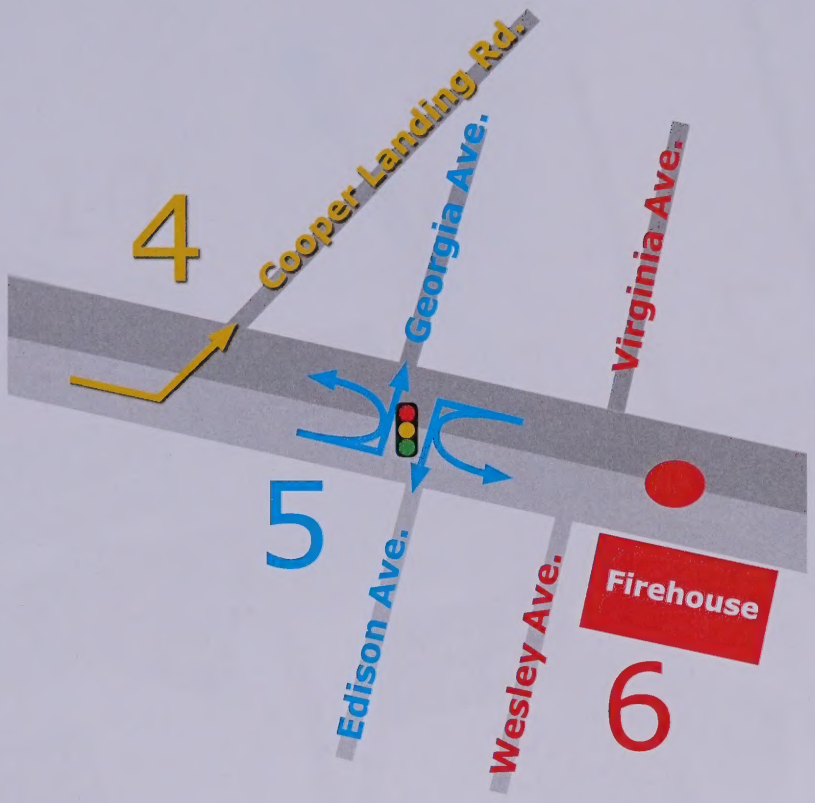
The Locustwood Memorial Park and Mausoleum median opening has an eastbound left-/U-turn lane. This will remain as is.

2. Whitman Avenue

The Whitman Avenue median opening is a narrow two-way opening. This will be modified to consist of a 250-foot westbound only left-/U-turn lane.

3. Conwell Avenue

The Conwell Avenue median opening is temporarily closed and will close permanently. Diverted vehicles may use the left-/U-turn lane at Whitman Avenue or the left-/U-turn lane at Georgia Avenue/Edison Avenue.



4. Cooper Landing Road

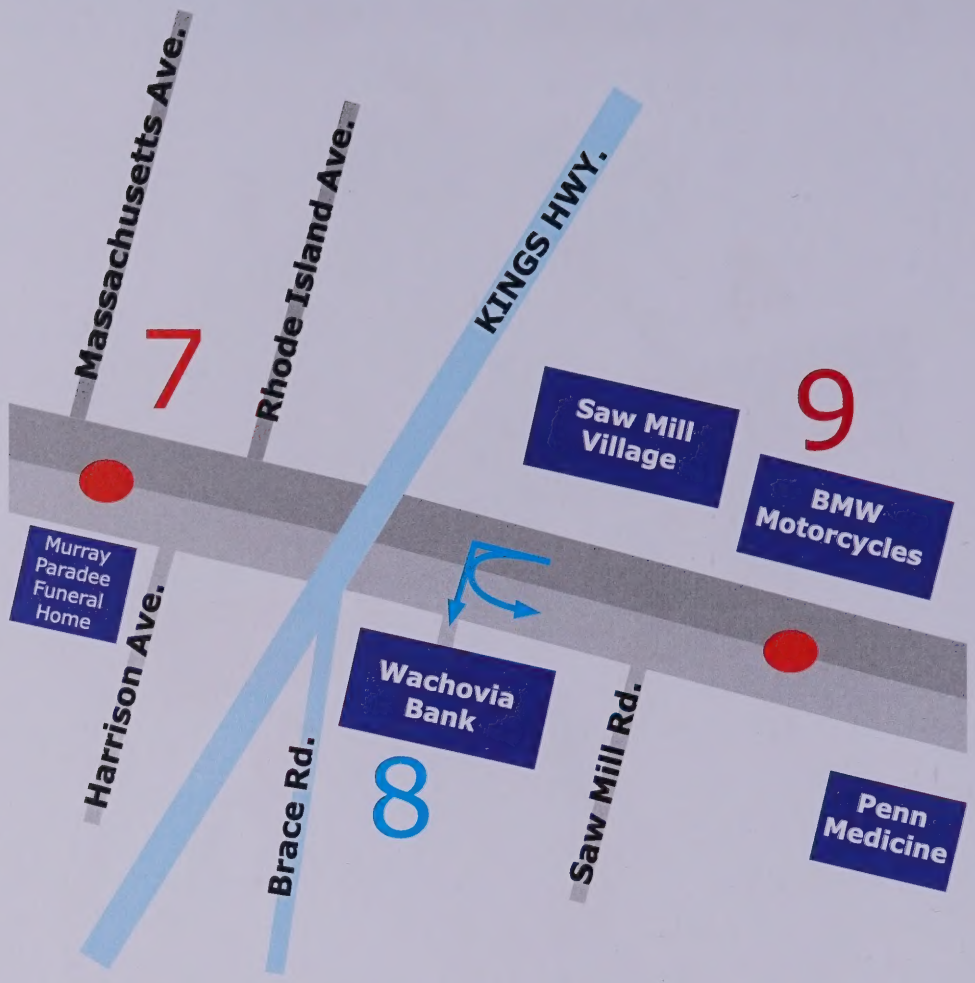
The Cooper Landing Road median opening consists of an eastbound-only left-turn lane where U-turns are prohibited. This will remain and the left-turn lane will be lengthened to 250 feet.

5. Georgia Avenue/Edison Avenue signal

While the Georgia Avenue/Edison Avenue signal allows both eastbound and westbound left-/U-turns, there are no lanes for these movements. This will be modified to provide left-/U-turn lanes 150-feet long eastbound and 250-feet long westbound. The traffic signal timing and operation also will be modified to provide the most efficient movement for pedestrians and vehicles.

6. Firehouse

The firehouse median has a wide two-way opening. NJDOT will modify this by painting yellow diagonal stripes through the width and length of the opening. In addition, traffic signs will be posted in each direction with the message "No Turns" and "Emergency Vehicles Only."



7. Murray Paradee Funeral Home

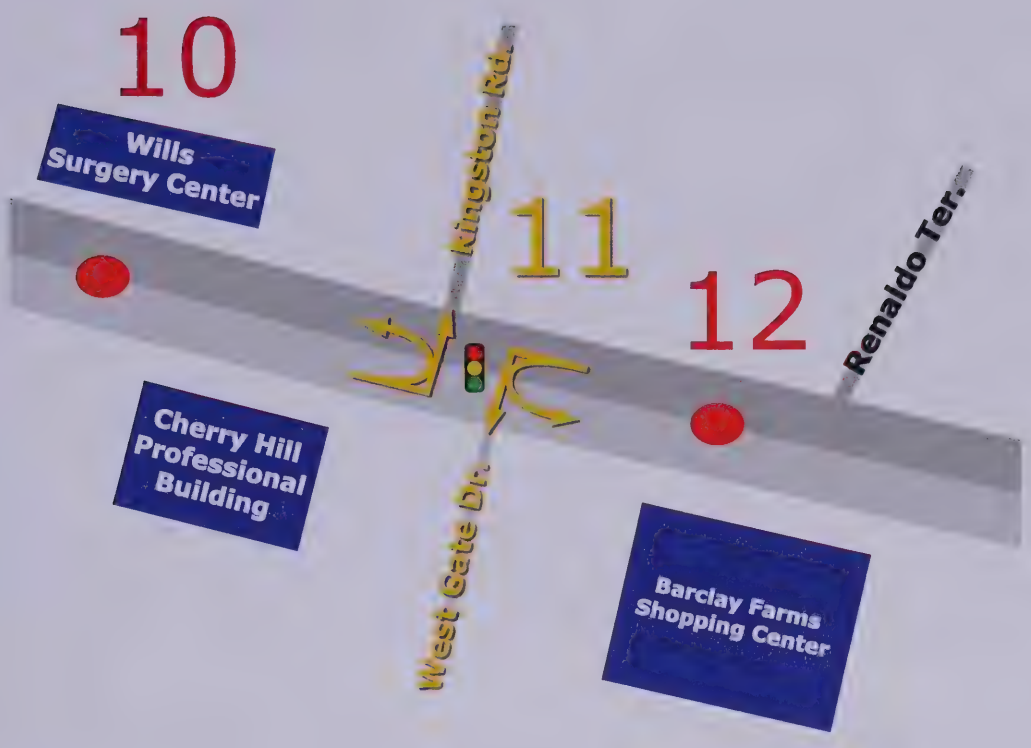
The median opening located near the entrance to the Murray Paradee Funeral Home is temporarily closed. It will be permanently closed and vehicles will be diverted to the left-/U-turn lane at Georgia Avenue/Edison Avenue or the jughandle at Kings Highway/Brace Road.

8. Wachovia Bank

The median opening located near the entrance to the Wachovia Bank is a two-way opening. It will be modified to a 250-foot long westbound-only left-/and U-turn lane.

9. BMW Motorcycles

The median opening located near the entrance to the BMW Motorcycles is temporarily closed. It will be permanently closed and vehicles will be diverted to the left-/U-turn lane at the opening near the Wachovia Bank or the left/and U-turn lane at Kingston Road/West Gate Road (page 9).



10. Wills Surgery Center

The median opening located near the entrance to the Wills Surgery Center is temporarily closed. It will be permanently closed and vehicles will be diverted to the left-/U-turn lane at the opening near the Wachovia Bank (page 8) or the left-/and U-turn lane at Kingston Road.

11. Kingston Road/West Gate Drive

The Kingston Road/West Gate Road signal consists of eastbound and westbound left-/U-turn lanes. These lanes will be lengthened to 250 feet for east- and westbound vehicles. The traffic signal timing and operation will also be modified to provide the most efficient operation for pedestrians and vehicles.

12. Barclay Farms Shopping Center (west)

The median opening located near the western entrance to the Barclay Farms Shopping Center is temporarily closed. It will be permanently closed and vehicles will be diverted to the left-/U-turn lane at Kingston Road/West Gate Drive or the left-/U-turn lane near the entrance to Future Fitness (page 10).

13. Barclay Farms Shopping Center (east)

The median opening located near the eastern entrance to the Barclay Farms Shopping Center has a westbound left-/U-turn lane. This will remain in effect and the left-turn lane will be lengthened to 250 feet.

14. Manor Care Health Services

The median opening located near the entrance to Manor Care Health Services is temporarily closed. It will be permanently closed and vehicles will be diverted to the left-/and U-turn lane at the opening near the Barclay Farms Shopping Center (east) or the left-/and U-turn lane near the entrance to Future Fitness.

15. Future Fitness

The median opening located near the entrance to Future Fitness is a two-way median opening. This will be modified to consist of a 250-foot eastbound only left-/U-turn lane.

Estimate Cost and Schedule

NJDOT is finalizing the cost estimate. The anticipated range for the completion of all the recommendations is $800,000 to $1,200,000.

The estimate schedule is:

- lengthening of the existing turn lanes — December 2006
- installation of new left-/U-turn lanes — December 2006
- firehouse signs and markings — December 2006
- signal modifications (with left-/U-turn lanes) — May 2007

Conclusion

The results of NJDOT's two-month study clearly indicate that the closure of median openings increases safety along the Route 70 corridor. The more than 10 percent reduction in crashes along the corridor during the study, coupled with the corridor's high accident rate, congestion and traffic volume, necessitates safety and operational improvements.

As a result, NJDOT proposes to close six of the corridor's nine median openings, install or improve left-/U-turn lanes and modify traffic signals.

In order to continue to improve safety, NJDOT will continue to closely monitor this area of Route 70 after the improvements are implemented.

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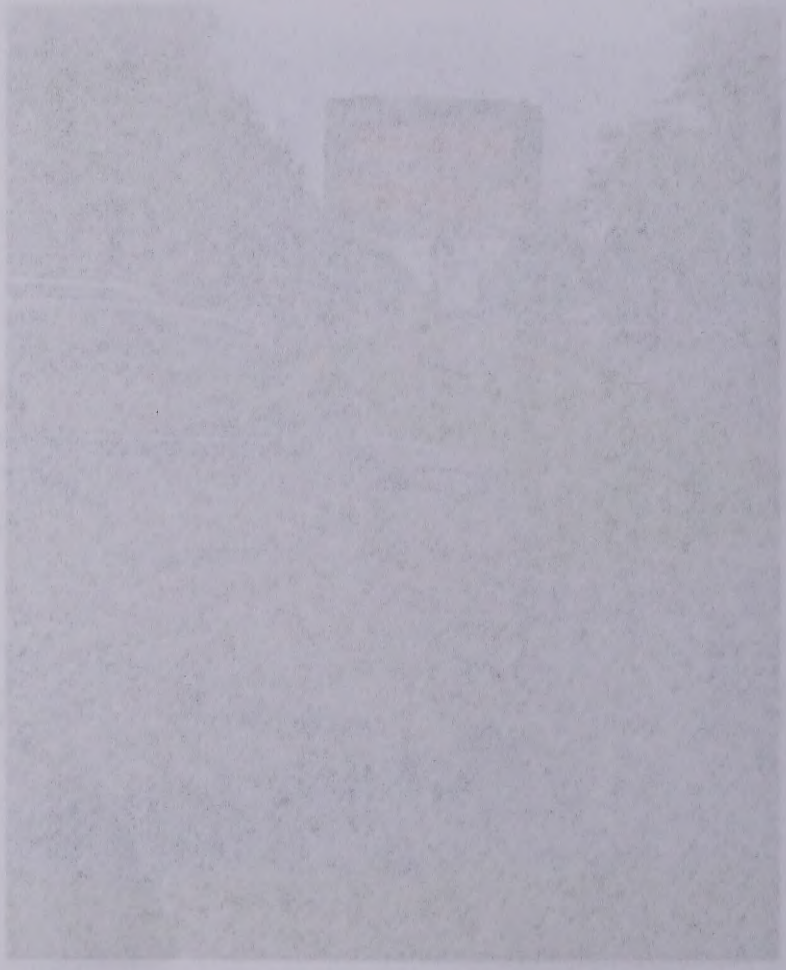

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